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EPA Superfund
Explanation of Significant Differences:

BERKS SAND PIT
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LONGSWAMP TOWNSHIP, PA
09/14/2001

EXPLANATION OF SIGNIFICANT DIFFERENCES No. 2
BERKS SAND PIT SUPERFUND SITE

I. INTRODUCTION

Site Name: Berks Sand Pit Superfund Site

Site Location: Longswamp Township, Berks County, Pennsylvania

Lead Agency: U.S. Environmental Protection Agency, Region III ("EPA" or "the Agency")

Support Agency: PA Department of Environmental Resources ("PADER")

A Record of Decision ("ROD") for the Berks Sand Pit Superfund Site was signed on September 29, 1988. On February 2, 1994, based on information acquired after the issuance of the ROD and during remedial design and remedial actions, EPA Region III issued an Explanation of Significant Differences ("ESD") which modified three components of the selected remedy. EPA Region III has now issued this second ESD for the Site in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"), which is now a part of the Administrative Record for the Site.

Additional information became available during remedial action which gave rise to the need for this second ESD. This ESD addresses the component of the selected remedy relating to restrictions to prevent any further drinking water wells in the contaminated areas of the aquifer, which restrictions EPA has now determined are no longer necessary. The new information acquired and EPA's conclusions are discussed in more detail below.

The Administrative Record for this Site is located in the Longswamp Township Municipal Building located on 1112 State Street, in Mertztown, Pennsylvania and may be reviewed during normal business hours. A copy of the Administrative Record is also located at EPA Region III, 1650 Arch Street, Philadelphia, Pennsylvania and is available for review during normal business hours.

II. SUMMARY OF THE SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

The Berks Sand Pit was created by the removal of sand and gravel from an area approximately 100 feet in diameter. The pit was excavated to a depth of 30 feet and reportedly used by area residents for the disposal of refuse. Industrial waste also was alleged to have been disposed in the area around the pit. Houses and private wells were constructed in the immediate vicinity beginning in 1978, after the pit was backfilled. One home was built directly on top of the pit.

Groundwater contamination was detected in the area by residents in January 1982. Emergency actions by EPA included partial excavation of the pit and backfilling with clean fill. No pockets of contamination or buried drums of liquid solvents were discovered. A water supply well was installed during the removal action to supply uncontaminated drinking water to four area residences.

A plume of groundwater contamination was defined by the installation of monitoring wells during the Remedial Investigation ("RI") and Remedial Design/Remedial Action ("RD/RA"). The predominant contaminants at the Site are 1,1,1-trichloroethane ("TCA") and 1,1-dichloroethene ("DCE"). These contaminants are "hazardous substances" as defined in Section 101(14) of CERCLA.

The EPA issued a ROD on September 29, 1988, to address the risks to human health and the environment presented by the exposure to contaminated groundwater and the discharge of this groundwater to a tributary to the Perkiomen Creek located immediately downgradient of the Site. A complete description of the selected remedy as Well as EPA's rationale for the decision is presented in the September 29, 1988 ROD which is attached as Appendix A. The major components of the selected remedy are:

* Installation and operation of a groundwater extraction system to remove contaminants from the aquifer;

* Construction and operation of an air stripper with vapor phase carbon absorption and discharge of the treated water to the aquifer by reinjection wells;

* Chemical and biological monitoring of the surface and groundwater quality;

* Local restrictions to prevent any further drinking water wells in the contaminated areas of the aquifer;

* Construction of an alternate water supply system; and

* Excavation of contaminated sediments and off site treatment and disposal by incineration.

Positive changes in the distribution of groundwater contamination resulting from the pump and treat system, as well as knowledge gained about the aquifer during the system design, eliminated the need for the construction of an alternative water supply system, the excavation and off-site treatment of contaminated sediments, and the reinjection of treated groundwater into the aquifer. The ROD was altered on February 2, 1994 by an ESD, eliminating these provisions from the ROD. The ESD was issued in accordance with Section 117 (c) of the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"), and is now a part of the

Administrative Record for the Site.

Continued operation of the groundwater extraction and treatment system has resulted in additional decreases in the concentration and the extent of groundwater contamination. This has resulted in the reduction of contamination in residential wells to safe levels. Experience with the pump and treat system has demonstrated the effectiveness of the implemented remedy. In summary, EPA has determined that it is unnecessary to impose local restrictions to prevent any further drinking water wells.

III. Description and Basis of Current Explanation of Significant of Differences

The Agency has not implemented the component of the ROD directing imposition of local groundwater restrictions. This component of the remedy would require some form of institutional control to prevent property owners located within the area of groundwater contamination from installing drinking water wells that may cause exposure to unsafe levels of contamination or adversely affect the cleanup of contamination.

Limited contamination exceeding Maximum Contaminant Levels ("MCLs") can still be detected in some specific areas, although not in the immediate vicinity of any current residential wells. Annual monitoring of residential wells and monitoring wells has documented the extent of groundwater contamination and supports EPA's determination that the residential wells are not impacted by unsafe levels of site contaminants. Pumping groundwater enhanced the natural migration of the contaminated groundwater past the residential area and into the wooded area behind the homes where it is extracted and treated prior to discharge. Annual monitoring of residential wells and monitoring wells shall continue until the completion of the groundwater cleanup.

Public outreach with property owners affected by the Site has proven to be an effective method of restricting the inadvertent usage of contaminated groundwater. The Agency will continue to conduct outreach to the local community to communicate the potential dangers posed by the groundwater contamination at the Site and the problems associated with placing new wells in an area that may become impacted by the groundwater contamination or may adversely affect the remediation of the groundwater to safe conditions. EPA will continue to collect annual monitoring well and residential well samples to detect any increasing trends in groundwater contamination. It is therefore the opinion of the Agency that the placement of local restrictions on new drinking water wells is not required to prevent unwanted exposure to the contaminated groundwater at the Site.

VI. Comparison of Change with Evaluation Criteria

The EPA evaluates its remedy selection by comparing them to nine criteria. These are: the overall protection of human health and the environment; compliance with applicable or relevant and appropriate requirements (ARARs); long-term effectiveness and permanence; reduction of

toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; cost; State concurrence; and community acceptance.

The original remedy calls for local restrictions to prevent any further drinking water wells in the contaminated area of the aquifer. This component of the remedy would require some form of institutional control for property overlying the contaminated aquifer to limit the use of groundwater. These institutional controls would be required without regard for any planned future groundwater use by the property owner and would be required for a period of time to be determined by the EPA. The implementation of this remedy component would involve a number of administrative burdens including negotiations with a number of property owners.

The difference to the ROD remedy that is addressed in this ESD is the elimination of the requirement to obtain local restrictions identified in the original ROD. Local restrictions are no longer required because of the limited size and inaccessible location of the remaining groundwater contamination. Contamination in residential wells has decreased to levels below MCLs as the plume migrated toward the groundwater extraction system. The volume of contaminated groundwater exceeding the cleanup goals has decreased approximately 70 percent and the remaining groundwater contamination is in a wooded area with restricted access. The gated access road into the area was constructed by EPA and is controlled by EPA through an easement.

This ESD documents the overall protection of human health and the environment because EPA will continue the annual monitoring of groundwater and continue the public outreach efforts to help prevent the inadvertent use of contaminated groundwater. The annual monitoring of residential wells and monitoring wells will continue until the groundwater cleanup is complete, thereby providing long-term effectiveness. This ESD is an administrative modification and is therefore immediately implemented and provides short-term effectiveness. Eliminating the requirement to impose local restrictions that prevent any further drinking water wells is cost-effective because it eliminates administrative burdens. This ESD does not modify the cleanup in regard to ARARs nor the reduction of toxicity, mobility, or volume through treatment.

IV. SUPPORT AGENCY COMMENTS

All of the above changes to the remedy have been coordinated with representatives of PADER. PADER submitted a letter on July 13, 2001 concurring with the changes to the selected remedy as described in this ESD.

V. AFFIRMATION OF THE STATUTORY DETERMINATIONS

Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA believes that the remedy remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant

and appropriate to this remedial action as described in the ROD for this Site, and is cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site. Therefore, the modified remedy will satisfy Section 121 of CERCLA, 42 U.S.C. § 9621.

VI. PUBLIC PARTICIPATION

The Administrative Record File for the Site includes the ROD and EPA's February 2, 1994 ESD and all documents that formed the basis for EPA's selection of the cleanup remedy in the ROD and ESD. This ESD and other related documents and the information upon which it is based have also been included in the Administrative Record file for this Site. The Administrative Record File is available for public review at the locations listed below:

U.S. EPA, Region III
1650 Arch Street
Philadelphia, PA 19102-2029
Hours: Mon. - Fri., 9:00 a.m. - 4:00 p.m.

Longswamp Township Municipal Building
1112 State Street
Mertztown, PA 19539
Hours: Mon. - Fri., 8:00 a.m. - 5:00 p.m.

9/14/01
Date

Abraham Ferdas, Director
Hazardous Site Cleanup Division